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IN THE
UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

Appeal No. 22,142

PERMOUNTAIN RESEARCH AND ENGINEERING COM-
ANY, INC., IRECO CHEMICALS, and IRON ORE COMPANY
OF CANADA,

Plaintiffs-Appellants,

v.

HERCULES INCORPORATED and
KAISER STEEL CORPORATION,

Defendants-Appellees.

BRIEF OF PLAINTIFFS-APPELLANTS

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STATEMENT ON JURISDICTION

This is an action for infringement of several patents owned by appellants, including Ursenbach, et al. patent No. 3,113,059 (R 83-4)* which issued December 3, 1963 to appellant, Intermountain Research and Engineering Company, Inc., a Utah corporation.

The original Complaint, filed July 15, 1966, (R 2-6) charged that appellees, Hercules Corporation (a Delaware corporation) and Kaiser Steel Corporation (a Nevada corporation), had infringed said patent by acts committed in the then Southern District of California.

Jurisdiction of the District Court arising under the patent laws of the United States and based on 28 U. S. C. §§ 1338(a) and 1400(b) has been admitted by appellees in their Answer, paragraph 1 (R 14).

* R followed by numbers designates pages of the record on appeal.

Before trial, appellees moved for a Summary Judgment (R 57-79, 95) under Rule 56, F. R. C. P., asking the District Court to dismiss the Complaint with respect to said patent 3,113,059. The District Court, on June 6, 1967, entered Judgment (R 145-6), Findings of Fact and Conclusions of Law (R 142-4) adjudging patent 3,113,059 invalid and dismissing the Complaint as to said patent. In order to avoid any question under Rule 54(b), F. R. C. P., the District Court on July 5, 1967 entered a Certifying Order directing that said Judgment of June 6 be considered a Final Judgment as to this patent (R 161).

On the same day, July 5, 1967, appellants filed the appeal (R 162-3) from this Judgment pursuant to 28 U. S. § 1291.

STATEMENT OF THE CASE

The Judgment here on appeal is concerned solely with the validity of patent 3,113,059, one of four patents involved in this action. Patent 3,113,059, like the other three patents in suit, relates to aqueous slurry blasting compositions which may be used in open pit mines to shatter rock and ore formations so that the broken ore can be readily loaded into trucks and removed from the mine for further processing.

Before completion of discovery and before any pretrial conference, appellees, on March 17, 1967, filed three motions: (a) for a stay in discovery with respect to the principal patent in suit No. Re. 25,695 (b) for Summary Judgment as to patent 3,249,474 and (c) for Summary Judgment as to patent 3,113,059. All three motions were briefed and argued before The Honorable Manuel L. Real on May 15, 1967 and all three motions were decided from the bench without opinions on May 16, 1967 (Tr.* 105, 142). On the

* The letters Tr. plus a number refer to pages of the transcript of oral argument on May 15-16, 1967.

appeal, we are concerned only with the third motion relating to patent 3,113,059.

The District Court at the conclusion of oral argument directed counsel for defendants-appellees to submit a proposed Order with respect to patent 3,113,059 (Tr. 143). Thereupon, the Judgment appealed from, together with the Findings and Conclusions proposed by counsel for appellees, were adopted by the District Court and entered on June 6, 1967 (R 142-6).

This Judgment finds patent 3,113,059 invalid "by virtue of 35 U. S. C. § 102(b) and § 103" and dismisses the Complaint with prejudice to the extent it charges infringement of said patent 3,113,059.

The Findings and Conclusions adopted by the District Court are founded entirely on the Court's own interpretation of the patent in suit (R 83-4) and of printed copies of two prior patents, Faber 1,529,778 (R 74-5) and Taylor, et al. 2,481,795 (R 76-9). These were the only papers submitted by appellees in support of their Rule 56 motion.

Appellants, in opposition to said motion, filed an affidavit of Wayne O. Ursenbach (R 120-3), a qualified expert in aqueous slurry explosives and one of the patentees of patent in suit 3,113,059. The Findings of the District Court ignore the statements in this affidavit.

I. The Ursenbach, et al. Patent In Suit 3,113,059

This patent (R 83-4) describes and claims an aqueous slurry blasting agent composed principally of inorganic nitrates, water and particulate aluminum which has been stabilized by addition of 0.1 to 2% of an ammonium or an alkali metal phosphate so that the slurries can be safely stored for periods of several weeks or months. Without such an inhibitor, these slurries, on prolonged storage, were found to give off hydrogen gas from the reaction of water and aluminum.

These slurry blasting agents usually contain 50% or more of ammonium and sodium nitrates along with 10 to 15% of water and 8 to 20% of aluminum (R 83, col. 1, lines 62-4 and col. 2, lines 45-53). The inhibitors found effective as stabilizers according to the patent are the tribasic, dibasic or monobasic phosphates of ammonium or alkali metal such as sodium or potassium; diammonium hydrogen phosphate is preferred (R 83, col. 1, lines 57-60).

The Ursenbach affidavit states (R 121) that experimentation with a variety of chemicals as stabilizers showed that these ammonium and alkali metal phosphates worked best when added in very small amounts.

The claims of the patent in suit read as follows (R 83-4)

“1. An aqueous slurry blasting agent comprising water, particulate aluminum, an inorganic nitrate oxidizing agent and a stabilizing amount of a phosphate selected from the group consisting of ammonium and alkali metal phosphates.

2. The composition set forth in claim 1 containing 0.1% to 2% by weight of said phosphate based on the weight of the composition.

3. The composition set forth in claim 1 wherein said phosphate is diammonium hydrogen phosphate.

4. An aqueous slurry blasting agent comprising water, particulate aluminum, ammonium nitrate and 0.1% to 2% by weight of diammonium hydrogen phosphate based on the weight of said slurry.

5. An aqueous explosive system comprising water, particulate aluminum, an inorganic nitrate oxidizing agent, and a stabilizing amount of a phosphate selected from the group consisting of ammonium and alkali metal phosphates.”

Appellees' Findings (R 142-3) adopted by the District Court do not mention these claims or their clear provisions.

Claims 1 to 4 specify “an aqueous slurry blasting agent”; claim 5 calls for “an aqueous explosive system”. Neither of the prior patents relied upon describes such a product.

Claims 1 to 5 specify one of the ammonium or alkali metal phosphates as a part of the aqueous slurry blasting agent or explosive. Neither of the prior patents relied upon describes a single one of these phosphates in an aqueous slurry of any kind.

Patent claims 2 to 4 specify the amount of the phosphate as 0.1% to 2% based on the weight of the slurry composition. Neither of the prior patents relied upon describes this amount of *any* phosphate in *any* explosive composition.

II. The Prior Patents Relied Upon By Appellees

A. Faber 1,529,778 issued March 17, 1925

This patent (R 74-5) describes manufacture of a "pyrotechnic article called a 'sparkler'. This device is a short piece of iron wire coated over with a silvered material about one-eighth of an inch thick, which on being lighted throws out sparkles, very much like the sparks from a grinding wheel." (R 74, lines 10-16).

The composition is said to be made up initially of a thick syrup of dextrin in water to which is added aluminum powder, finely divided iron and steel filings, barium nitrate and magnesium carbonate (R 74, lines 16-23). The amounts of these ingredients are not given.

Manufacturers are said to have been troubled by "fermenting" in that this sparkler composition, within three hours' time of being mixed, begins to "bubble and boil, foaming up over the top of the tub and generating a great deal of heat" (R 74, lines 24-37).

Faber suggests (R 74, lines 38-70) this is due to reaction of water with aluminum to form hydrogen which, in turn, reacts with the nitrate part of the barium nitrate to produce ammonia. Speed of the reaction between the finely divided aluminum and water is said to be "increased with the increased alkalinity of the solution" (R 74, lines 59-

62). The magnesium carbonate in the mix "was noticeably alkaline" (R 74, lines 71-73).

Faber, therefore, proposes (R 74, line 79 to R 75, line 6) addition of a mild acid or acid salt "buffer" to "prevent the development of an alkaline reaction in the slurry". Sodium acetate is mentioned as such a buffer (R 74, lines 84-5). Faber then says (R 74, line 107 to R 75, line 2):

"Out of the many soluble and insoluble mild acids and acid salts which we have in chemistry, all of which would serve in a more or less satisfactory manner the above purpose, I have chosen calcium mono phosphate as the best example."

This is used "in an amount sufficient to act in the capacity of a neutralizing agent for any alkali developed over a period time * * *." (R. 74, lines 92-7). Faber says the proportion of his "buffer" should be 3 to 5% of the composition (R 75, lines 7-14).

Appellees, in their motion, relied solely upon this prior Faber patent as an anticipation under 35 U. S. C. § 102.* Appellees also relied primarily upon Faber as the prior art in arguing that the invention claimed by Ursenbach, et al. was obvious under 35 U. S. C. § 103.* It is pertinent, therefore, to compare the claims of the patent in suit with what Faber describes.

1. The patent claims all specify an aqueous slurry blasting agent or explosive system. Faber's wet mix exists as such for only a short time before the material is coated on the iron wires and dried to make sparklers. Faber's composition, wet or dry, is not an explosive of any kind.

2. Faber teaches his sparkler mix "bubbles and boils" within a few hours after mixing because its alkaline nature and materials promote a reaction between water and aluminum to form hydrogen that in turn decomposes the

* For the convenience of the Court, 35 U. S. C. §§ 102 and 103 are reproduced in an appendix to this brief.

barium nitrate to form ammonia. The patent in suit says nothing about slurry blasting agents being alkaline. The Ursenbach affidavit states (R 121) that such slurry explosives "are not highly alkaline and do not contain any substantial amount of a carbonate." His patent refers to ammonia gas being evolved only when *ammonium* nitrate is contained in the slurry (R 83, col. 2, lines 3-5 and 11-19). Faber uses *barium* nitrate.

3. Faber teaches the use of acids or acid salts and, specifically, sodium acetate or calcium mono acid phosphate, as a "buffering" agent to neutralize alkalinity in his sparkler mix. The patent in suit says nothing about buffering agents or acid materials to neutralize alkalinity. The Ursenbach affidavit (R 121-122) states (a) his phosphates are not added for the purpose of chemically neutralizing alkaline materials in the slurry and (b) he is convinced that the phosphates he uses in slurry explosives "do not perform their inhibiting function by reason of any buffering action."

4. The patent claims specify as stabilizers the ammonium and alkali metal phosphates. These include the alkaline (tribasic) as well as acid phosphates and they are all different compounds chemically from calcium mono acid phosphate, the single phosphate compound mentioned by Faber.

5. Patent claims 2 to 4 specify the amount of the inhibitor as 0.1% to 2% of the weight of the aqueous slurry composition. Faber teaches the use of 3 to 5% of a buffer in his sparkler mix.

B. Taylor 2,481,795 issued September 13, 1949

This patent describes dry explosive compositions that do not contain any aluminum. The compositions are made up of solid ammonium nitrate, ammonium chloride and ground limestone mixed with some high explosives, such as nitroglycerine (examples 1, 2 and 4), or pentaerythritol tetranitrate (example 3), or nitrocellulose (examples 5, 6

and 7). This patent teaches (R 77, column 3) the use of a non-deliquescent oxidizable ammonium salt and an insoluble metal carbonate to serve as a flame-quenching ingredient when these compositions are exploded.

This patent (R 77, col. 3, lines 60-68) says it "is also sometimes desirable to include" a small amount of an acid buffer salt, mentioning as examples certain acid phosphates. The only reason stated for adding such acid phosphates is to react with "ammoniacal vapors" and "in order to minimize the alkalinity" (R 77, col. 4, lines 17-23).

The Taylor patent has absolutely no pertinence to the claims of the patent in suit because

(1) Taylor does not describe any kind of aqueous slurry and

(2) Taylor does not describe any composition containing aluminum.

Furthermore, the preferred inhibitor specified in claims 3 and 4 of the patent in suit, diammonium hydrogen phosphate, is not mentioned in the Taylor patent.

III. Appellants' Affidavit Opposing The Motion

In opposition to the motion, appellants filed the affidavit of Wayne O. Ursenbach (R 120-3), a chemist and an expert in the field of aqueous slurry explosives.

Ursenbach, in his affidavit (R 121), states that the problems with aqueous slurry explosives are encountered only when they are stored for several days or weeks after being mixed. He also points out that acid substances were ineffective as stabilizers and that out of many chemicals tried as inhibitors, the ammonium or alkali metal phosphates were found to be the best materials for use in this type of a composition.

He goes on to point out (R 121-2) that the particular phosphates he has found successful are not added for the

purpose of chemically neutralizing alkaline materials in the slurry, and that the phosphates claimed in his patent do not act as "buffers".

Ursenbach further points out (R 122) why the teaching of the Faber patent is different in function and purpose from his claimed use of a certain class of phosphates and also (R 122-3) why the Taylor patent has nothing to do with the claims of the patent in suit.

Ursenbach concludes (R 123) that if he and the other patentees had had the Faber and Taylor patents before them when they were trying to solve their problem of storing slurry explosives, these prior patents would not have helped at all in making the discovery they made.

The District Court's Conclusions ignore Ursenbach's sworn statements, and the District Court's Findings resolve fact issues, without a trial, contrary to statements in Ursenbach's affidavit.

IV. The Erroneous Findings Of The District Court

Appellants do not challenge Findings 1, 5, 7 and 9.

A. Findings 2 And 3 Are Inaccurate And Misleading

Finding 2 at the outset is inaccurate in stating the invention of the patent in suit "relates to a method". It is also incomplete and misleads by ignoring the fact that the patent claims as a product an aqueous blasting slurry, and that the stabilizers minimize hydrogen evolution when these explosives are stored for weeks or months.

Finding 3, without any support in the record and directly contrary to the description of the patent in suit and statements in the Ursenbach affidavit, finds as a fact that there is nothing unique or critical about the particular phosphates or the amounts thereof that are claimed.

Finding 4 inaccurately characterizes Faber's teaching, ignoring the facts that (a) Faber does not disclose an ex-

plosive composition, (b) Faber does not teach the use of phosphates generally or the claimed phosphates in particular, and (c) Faber teaches the use of acid buffer salts to prevent hydrogen evolution by neutralizing alkalinity.

Finding 6 inaccurately characterizes Taylor's teaching ignoring the facts that (a) Taylor does not describe either an aqueous slurry or any composition containing aluminum and (b) Taylor suggests acid phosphates only to neutralize alkaline ammoniacal vapors.

The conclusory Findings 8 and 10 of anticipation and obviousness, respectively, are totally erroneous, as we shall show.

SPECIFICATION OF ERRORS

The District Court erred

1. In holding patent 3,113,059 invalid and void for anticipation under 35 U. S. C. § 102(b),
2. In holding patent 3,113,059 invalid and void for obviousness under 35 U. S. C. § 103,
3. In adopting Findings 2, 3, 4, 6, 8 and 10 and Conclusions of Law 3 to 8, inclusive, and 10,
4. In resolving disputed issues of material facts against the patent in suit without benefit of a trial or expert testimony,
5. In failing to consider the presumption of validity of a patent under 35 U. S. C. § 282,
6. In entering Summary Judgment without a trial, dismissing the Complaint as to patent 3,113,059.

SUMMARY OF ARGUMENT

The Claimed Invention Is Not Anticipated

The claims of the patent in suit are not anticipated by the prior Faber patent. Anticipation requires prior art which identically describes all of the elements, or their equivalents, of the claimed invention, with these elements doing substantially the same work in substantially the same way.

The claimed invention is an aqueous slurry blasting composition. Faber does not describe either a blasting or explosive composition. The claimed product contains an ammonium or an alkali metal phosphate as a stabilizer. Faber does not describe a composition containing any of the claimed phosphates.

Faber does not describe the preferred diammonium hydrogen phosphate of claims 3 and 4, or the amounts of stabilizer specified in claims 2 to 4.

There is no anticipation of the claims by Faber.

The Findings Of The District Court Are Inaccurate, Incomplete And Misleading

Both the scope and content of the prior art, as well as the differences between the prior art and the claims at issue, must be ascertained factually before the question of obviousness can be decided.

The District Court Findings 4 and 6 did not accurately or completely ascertain the scope and content of the prior art as revealed by the prior Faber and Taylor patents.

Finding 4 is incomplete, inaccurate and misleading in that it implies Faber taught the use of phosphates in his sparkler mix, whereas the only phosphate compound mentioned by Faber was given as an example of an acid salt, and not as an example of a phosphate. Faber's teaching is the neutralizing of alkalinity by adding a mild acid or acid salt.

Finding 6 is incomplete and misleading because the prior Taylor patent does not relate either to aqueous slurries or to explosives containing aluminum, both of which are part of the claimed invention. Taylor mentions acid phosphates only to neutralize ammoniacal vapors.

The District Court did not ascertain factually the differences between the prior art and the claims at issue. Findings 2 and 3 are inaccurate and incomplete with respect to the subject matter of the patent in suit.

Finding 2 ignores the claims and overlooks the facts that the patented slurries are not alkaline, that the stabilizers claimed include alkaline as well as acid phosphates, and that the claimed stabilizers necessarily inhibit water-aluminum reaction by a different chemical reaction than the use of acids or acid salts to neutralize alkalinity.

Finding 3 is inaccurate and unsupported on the record in concluding that neither the particular phosphates nor the amounts set forth in the patent claims is of importance.

The District Court Findings also ignore statements of material facts in the Ursenbach affidavit. That affidavit points out that the claimed aqueous slurry explosives are not highly alkaline, do not contain any substantial amount of a carbonate, and that the phosphate stabilizers claimed in the patent in suit are not added for the purpose of neutralizing alkaline materials in these slurries.

Ursenbach further states that the acids and acid salts taught generally by Faber would not be effective inhibitors in the claimed slurry explosives and that the different phosphates claimed in the patent in suit do not perform their inhibiting function by any buffering action. Finally, Ursenbach concludes that if he had had the Faber and Taylor patents before him, they would not have helped the patentees make the discovery of the patent in suit.

The Claimed Invention Was Not Obvious

The phosphate inhibitors claimed in the patent in suit function by a different chemical reaction than the acid salts

of the prior art to accomplish suppression of hydrogen evolution. The prior art teaches use of acid salts to neutralize alkaline mixes and thereby suppress formation and evolution of gases. The claimed aqueous slurry explosives are not alkaline to start with. The phosphate inhibitors that are claimed function as inhibitors because they are phosphates and not because they are acidic.

Whatever chemical reaction is involved to produce the inhibiting effect by the claimed phosphates in the slurry explosives of the patent in suit, it is certain that such reaction is not the neutralizing of an alkalinity that does not exist in those claimed slurry explosives.

To a chemist, therefore, the prior art did not teach that phosphates as a class would act as satisfactory inhibitors in aqueous slurry blasting agents. Furthermore, Faber's short-range suppression of the "fermenting" of a sparkler mix did not teach a chemist how to stabilize slurry explosives during storage for periods of time up to three months.

Resolution Of Disputed Chemical Fact Issues Without A Trial Was Reversible Error

The District Court found anticipation and obviousness only by improperly resolving material disputed issues of fact against the patent in suit. This was improper without a trial. The only factual findings made by the trial court are insufficient to justify either the conclusion of anticipation or the conclusion of obviousness. In fact, the factual findings made by the trial court are unsupported by the papers of the moving party, ignore sworn statements in the Ursenbach affidavit and are inaccurate and misleading.

The mere fact that so many material, and highly technical, fact issues are disputed is alone a sufficient reason for reversing the Judgment of the District Court. Plaintiff is, at least, entitled to a trial of these issues.

ARGUMENT

The appealed Judgment concludes

(1) that patent in suit 3,113,059 is invalid for anticipation by Faber (Finding 8, R 143 and Conclusions 3 and 4, R 144), and

(2) that this patent is also invalid over Faber and Taylor for obviousness (Finding 10, R 143 and Conclusions 5-7, R 144).

Both conclusions are erroneous. We shall dispose first of the question of anticipation.

I. There Is No Anticipation Of Any Of The Claims Of The Patent In Suit

35 U. S. C. § 102(b) deals with anticipation. 35 U. S. C. § 103 refers to situations in which "the invention is not identically disclosed or described as set forth in § 102 of this title". Thus, § 102 is talking only about prior patents or publications which *identically* describe the invention. This principle of patent law goes back to the days of *Seymour v. Osborne*, 78 U. S. 516, 555 (1870).

Deller's *Walker on Patents* (Vol. 1, 2d Ed., p. 242) says:

"In order to negative novelty, or to 'anticipate' an invention, it is necessary that all the elements of the invention or their equivalents be found in one single description or structure where they do substantially the same work in substantially the same way."

To the same effect is the decision of this Court in *Stauffer v. Slenderella Systems of California*, 254 F. 2d 127, 128 (9 Cir. 1957). Even where the difference of the claimed construction over the prior art is very slight, there is still no anticipation, as this Court very recently pointed out in *Walker v. General Motors Corporation*, 362 F. 2d 56, 58 (9 Cir. 1966). See also *Ballantyne Instruments & Electronics, Inc. v. Wagner*, 345 F. 2d 671, 674 (6 Cir. 1965).

Application of these principles to the facts of this case immediately reveals the error of the District Court in finding anticipation.

Finding 2 (R 142) characterizes the invention of the '059 patent as "a method". The patent claims (*supra*, p. 4) are not to a method but to an "aqueous slurry blasting agent" (claims 1 to 4) and to an "aqueous explosive system" (claim 5). They are product claims. Neither of the prior Faber or Taylor patents describes in so many words an aqueous slurry blasting agent or explosive system. Taylor, of course, does not describe either an aqueous slurry or any composition containing aluminum, both of which are essential elements of each of the five claims. Thus, Taylor's description cannot anticipate.

Faber's sparkler mix is not a blasting agent or an explosive compound. Faber's mix is simply coated on the iron wires and dried. The sparkler product is something which even small children hold in their hands while the dry mix burns and throws off a shower of harmless sparks. Ursenbach states flatly in his affidavit that Faber does not show an explosive compound (R 122).

The Faber patent contains no mention whatsoever of either the ammonium or alkali metal phosphates specified in the claims. The only phosphate mentioned by Faber, calcium mono acid phosphate, is a salt of an alkaline earth metal, not an alkali metal. Thus, Faber describes neither an explosive product nor the use of the particular phosphate compounds, both of which are specified in claims 1 to 5 of the patent in suit.

In addition, neither of the prior patents describes the particular amount of stabilizer specified in claims 2 to 4, nor the preferred diammonium hydrogen phosphate specified in claims 3 and 4.

In order to find anticipation of the patent claims by Faber, it was necessary for the District Court to conclude factually:

(1) that Faber's sparkler mix was the same as or equivalent to, the aqueous slurry blasting agents claimed in the patent,

(2) that calcium mono acid phosphate mentioned by Faber was the same as, or equivalent to, the ammonium and alkali metal phosphates claimed in the patent, and

(3) that in the claimed compositions the claimed phosphates were acting as "buffers" in the same manner that Faber refers to the use of his acid salts as buffers to neutralize alkalinity.

Anticipation under 35 U. S. C. § 102(b) does not exist unless the prior art describes exactly the same thing that is claimed. The motion papers do not support a single one of the foregoing conclusions. There is no anticipation here.

II. The Claims Of The Patent In Suit Were Not Obvious From The Prior Art Before The Court

The test for obviousness under 35 U. S. C. § 103 was recently laid down by the Supreme Court in *Graham v. John Deere Co.*, 383 U. S. 1 (1966). This test is based on several factual inquiries and is as follows (pp. 17, 18) :

"Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. * * *

"This is not to say, however, that there will not be difficulties in applying the nonobviousness test. What is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context. The difficulties, however, are comparable to those encountered daily by the courts in

such frames of reference as negligence and scienter, and should be amenable to a case-by-case development.”

We recognize that this Court in *Walker v. General Motors Corporation*, 362 F. 2d 56, 59 (9 Cir. 1966) resolved the question of obviousness against a factual background. In *Walker*, however, there was no factual dispute as to what the prior art showed or as to what the patent in suit claimed. The subject matter was extremely simple. Nevertheless, this Court in *Walker* did point out (p. 59) :

“It [a summary judgment] is inappropriate only when a material fact is subject to genuine dispute—as it was in the two cases relied upon by plaintiff: *Hughes Blades, Inc. v. Diamond Tool Associates*, 300 F. 2d 853 (9th Cir. 1962), and *Cee-Bee Chem. Co. v. Delco Chemicals, Inc.*, 263 F. 2d 150 (9th Cir. 1958).”

The subject matter of the patent here in suit, as well as the subject matter of the prior patents relied upon by appellees, is not simple. This subject is not only chemical but deals with blasting agents—explosives—products which are not even familiar to most chemists. Furthermore, the factual Findings 2, 3, 4 and 6 adopted by the District Court are incomplete, inaccurate and misleading, both as to the nature of the invention claimed in the patent in suit and as to the teaching, or lack of teaching, of the prior art patents.

A. The District Court Did Not Correctly Determine The Scope And Content Of The Prior Art

The only truly factual findings made by the District Court with respect to the teachings of the prior Faber and Taylor patents are Findings 4 and 6, respectively.

As we have shown (*supra*, pp. 5-7), Faber, the principal reference relied upon, described a problem of “fermenting” that occurred in preparing a non-explosive composition suitable for coating iron wires to make sparklers. Faber attributes the “fermenting” to the alkalinity of his mix

which he says promotes and accelerates a reaction between the aluminum and water. Faber's solution to this problem is the addition of a mild acid or acid salt "buffer" to "prevent the development of an alkaline reaction in the slurry". He mentions calcium mono acid phosphate as the best such acid salt and says it should be used "in an amount sufficient to act in a capacity of a neutralizing agent for any alkali developed over a period of time" The foregoing is plainly the teaching of the Faber patent on its face.

Finding 4 reads as follows:

"4. U. S. No. 1,529,778 [Faber] (hereinafter referred to as the '778 patent) teaches the use of buffer salts, and in particular a phosphate salt, to inhibit the gas-evolving aluminum-water reaction in an aqueous slurry composition containing water, particulate aluminum, and an inorganic nitrate."

This Finding is incomplete in that it says nothing about Faber's main teaching of neutralizing alkalinity and says nothing about Faber's proposal to use acids or acid salts for this purpose. This Finding is misleading and inaccurate in that it implies Faber taught the use of phosphate salts generally, whereas the only phosphate compound, calcium mono acid phosphate, is mentioned because it is acid, not because it is a phosphate. Faber does not suggest even indirectly that other phosphate compounds, such as the claimed neutral or alkaline phosphate compounds, would be effective to prevent the fermenting of sparkler mixes or to inhibit a chemical reaction between water and aluminum in a different chemical environment.

Finding 4 further ignores the fact stated by Faber that his "fermenting" occurs within a few hours after the initial preparation of the sparkler mix, and causes the mix to "bubble and boil".

Finding 6, relating to the Taylor patent, reads as follows:

"6. U. S. No. 2,481,795 [Taylor] (hereinafter referred to as the '795 patent) teaches that ammonium

dihydrogen phosphate, sodium dihydrogen phosphate, and alkali metal phosphates in general were known buffer salts which could be incorporated in explosive compositions containing inorganic nitrate.”

This Finding is also incomplete and misleading. It does not recognize that Taylor was describing only dry explosives that do not contain any aluminum. It does not recognize that in such a product a reaction between aluminum and water could not possibly occur. This Finding further ignores the fact that Taylor’s only mention of phosphates was again a reference to certain acid phosphates that might be included to neutralize ammoniacal vapors and thus minimize any alkalinity in the product.

B. The District Court Findings Did Not Ascertain The Differences Between The Prior Art And The Claims At Issue

The only findings of the District Court with respect to the subject matter of the patent in suit are Findings 2 and 3. Finding 2 reads as follows:

“2. The alleged invention of the ’059 [3,113,059] patent relates to a method of stabilizing aqueous slurries useful as blasting explosives, said slurries containing water, particulate aluminum and an oxidizing agent, e.g., inorganic nitrate, for the purpose of preventing a gas-evolving reaction between the aluminum and water, and specifically involves the addition to such aqueous slurries of an ammonium or alkali metal phosphate for such purpose.”

This Finding ignores the claims of the patent in suit and inaccurately refers to the invention as relating to “a method”. This Finding is incomplete in that it does not recognize that the problem with the aqueous slurry blasting agents, as stated on the face of the patent, occurred only when they were stored for weeks or months. This Finding is further incomplete in ignoring the facts

(1) that the patented aqueous slurry blasting agents are not alkaline,

(2) that the particular stabilizers claimed include alkaline as well as acid phosphate compounds, and

(3) that the invention claimed is the use of a certain class of phosphates to inhibit water-aluminum reaction by a different chemical mechanism than the use of acid salt "buffers" to neutralize alkalinity.

Finding 3 reads as follows:

"3. The '059 patent does not attribute any criticality or uniqueness either to the particular phosphates disclosed and claimed therein to be suitable for such purpose, or to the amounts thereof to be used for such purpose."

This Finding is inaccurate in that the patent in suit definitely specifies the class of ammonium and alkali metal phosphates as best for the purposes of the patentees and specifically states that diammonium hydrogen phosphate (not mentioned by Faber or Taylor) is preferred.

This Finding is further inaccurate in that the patent in suit specifies only a very small amount of stabilizer, stating that more than 2% gives "no apparent added benefit".

There was no basis whatsoever in the papers before the District Court for the implication or conclusion of fact expressed in this Finding that neither the particular phosphates nor the amounts thereof were of importance.

C. The District Court Findings Ignore The Statements Of An Expert In The Ursenbach Affidavit

Findings 1 to 10 do not mention the Ursenbach affidavit or material facts stated therein.

In paragraph 3 (R 121-2), Ursenbach points out that acid chemicals which were tried did not inhibit the aluminum-water reaction liberating hydrogen gas upon storage of the aqueous slurry explosives. He further points out that such explosives are not highly alkaline, do not con-

tain any substantial amount of a carbonate, and that the phosphates found successful are not added "for the purpose of chemically neutralizing alkaline materials in the slurry."

Urnsbach in paragraph 4 (R 122) says that acidic chemicals taught by the Faber patent "would not be effective as inhibitors in our slurry explosives." Also, he points out further ". . . I am completely convinced that the phosphates used as inhibitors in slurry explosives in accordance with our patent in suit do not perform their inhibiting function by reason of any buffering action."

Finally, in paragraph 6 (R 123), Urnsbach states that the Faber and Taylor patents would not have helped them make their discovery of the patent in suit and that the use of phosphates for his purposes "would not have been obvious to any ordinary explosives chemist from reading these prior patents."

D. The Patent Claims Involve A Different Chemical Reaction Than The Neutralizing Reaction Taught By The Prior Art

The only thing that the patent in suit and the Faber patent have in common is their mention of a reaction between aluminum and water to form hydrogen gas. From this superficial similarity, the District Court leaped to a conclusion of obviousness without determining the "level of ordinary skill in the pertinent art" as required by *Graham*.

However, Faber and the patent in suit employ entirely different chemical reactions to accomplish the suppression of hydrogen evolution. Also, they are dealing with entirely different chemical compositions to start with.

Faber's sparkler mix is distinctly alkaline. The aqueous slurries of the patent in suit are not.

Faber adds an acid or acid salt to neutralize the alkalinity which he says is responsible for the "fermenting"—

gas evolution. The patent in suit describes and claims addition of a particular class of phosphates (alkaline, neutral and acid) to a slurry that is not alkaline.

The fact that Faber mentions one specific phosphate—calcium mono acid phosphate—as a particularly good acid salt to neutralize alkalinity is not a teaching that other phosphates, including the non-acid ones, would be beneficial merely because they are phosphates.

The phosphates claimed in the patent in suit do not include Faber's calcium mono acid phosphate.

It may well be that the claimed phosphates inhibit reaction between water and aluminum by forming some kind of a protective phosphate coating on the aluminum particles. They may be effective on some other theory. The patent does not advance a theory of operation, stating simply that ammonium and alkali metal phosphates as a class have been found to be effective.

But one thing is certain on the papers before this Court. The claimed phosphates in the slurry blasting agents do not inhibit hydrogen evolution by neutralizing an alkalinity of the slurries that does not exist. They must act because of some *different* chemical reaction or mechanism.

To a chemist, therefore, Faber's mention of one acid phosphate as an example of acids and acid salts generally would not suggest that phosphates generally (alkaline, neutral or acid) would be effective. This is especially true where, as here, the claimed aqueous slurry explosives to be stabilized.

(a) do not bubble and boil within a few hours of mixing,

(b) need to be stabilized for storage over several weeks, and

(c) do not contain carbonates which produce alkalinity that Faber neutralizes with an acid salt.

The claimed stabilized aqueous slurry blasting agents were not obvious to one skilled in the explosives art from anything described in Faber's sparkler patent.

The Taylor patent adds nothing because it is not concerned with either an aqueous slurry or a composition containing aluminum.

III. It Was Reversible Error For The District Court To Resolve Material Fact Issues Without A Trial

In a summary judgment proceeding, all doubts on factual matters are resolved against the moving party. The rule was well stated by this Court in *Cox v. American Fidelity & Casualty Co.*, 249 F. 2d 616 (9 Cir. 1957), where the Court said (p. 618):

“The summary judgment procedure under Rule 56 has been widely commented upon by all the circuits, but perhaps the best statement on the applicability of the rule was made by the late Judge Jerome Frank of the Second Circuit, when he elaborated on the ‘slightest doubt’ rule enunciated by the First Circuit as follows:

‘We take this occasion to suggest that trial judges should exercise great care in granting motions for summary judgment. A litigant has a right to a trial where there is the slightest doubt as to the facts, and a denial of that right is reviewable; but refusal to grant a summary judgment is not reviewable. Such a judgment, wisely used, is a praiseworthy time-saving device. But, although prompt dispatch of judicial business is a virtue, it is neither the sole nor the primary purpose for which courts have been established. Denial of a trial on disputed facts is worse than delay. [Citing *Arenas v. United States*, supra] * * * The district courts would do well to note that time has often been lost by reversals of summary judgments improperly entered.’ *Doehler Metal Furniture Co. v. United States*, 149 F. 2d 130, 135.”

The law is the same on this point in the Courts of Appeals for the other Circuits. See *Jacobson v. Maryland Casualty Co.*, 336 F. 2d 72, 74-5 (8 Cir. 1964) and *Bushman Construction Company v. Conner*, 307 F. 2d 888, 892-3 (10 Cir. 1962).

We have shown (*supra*, pp. 17-19) that Findings of Fact 4 and 6 do not accurately, or completely, or correctly characterize the state of the prior art as actually taught by the Faber and Taylor patents. The scope and content of the prior art is a necessary factual determination according to the *Graham* case.

We have further shown (*supra*, pp. 19-20) that Findings of Fact 2 and 3 are inaccurate, incomplete and misleading in characterizing the invention of the patent in suit and its claims.

In addition, the trial court findings are wholly inadequate in failing to make any comparison of the differences between the prior art and the claims at issue, a factual determination also required by *Graham*.

Even though the Findings do not so state, it is plain that the conclusion of obviousness could only have been reached by the District Court by resolving against the patent in suit, without the benefit of a trial or expert testimony, the following facts:

1. The phosphates in the claimed slurry explosives were acting as buffering agents to neutralize alkalinity, even though Ursenbach in his affidavit stated they were not.

2. Faber's mention of calcium mono acid phosphate as an example of an acid salt buffer to neutralize alkalinity would suggest to a chemist that a different class of phosphates would inhibit reaction between aluminum and water in a slurry that did not contain any alkalinity to be neutralized.

3. Faber's mention of acid salts and, specifically, calcium mono acid phosphate, to prevent fermenting of a non-

explosive sparkler mix would teach a chemist that other phosphates would not interfere with the exploding properties of aqueous slurry blasting agents after storage for several weeks or months.

We have already demonstrated that each of the above factual findings on the basis of the motion papers would have to be resolved in the negative.

The resolution of the many highly technical, chemical, fact questions involved in this motion was something that the District Court should not have attempted without a trial. As Judge Learned Hand said in *Reiner v. I. Leon Co.*, 285 F. 2d 501, 503-4 (2 Cir. 1960):

“The test laid down [35 U. S. C. § 103] is indeed misty enough. It directs us to surmise what was the range of ingenuity of a person ‘having ordinary skill’ in an ‘art’ with which we are totally unfamiliar; and we do not see how such a standard can be applied at all except by recourse to the earlier work in the art, and to the general history of the means available at the time. To judge on our own that this or that new assemblage of old factors was, or was not, ‘obvious’ is to substitute our ignorance for the acquaintance with the subject of those who were familiar with it.”

It is manifest from the foregoing that there is a genuine dispute as to many of the material facts which must be resolved in this case before a Court can draw a conclusion of either anticipation or obviousness. These material facts in dispute, unlike the *Walker* case, are not simple but are chemical, highly technical and unfamiliar to the ordinary person.

We respectfully submit that the mere existence of these disputed material facts is sufficient to entitle the plaintiff to a trial on the fact issues involved. Such issues should not have been resolved by the Court in a summary judgment proceeding, and it was reversible error for the District Court to have done so.

CONCLUSION

The Judgment holding patent in suit 3,113,059 invalid and dismissing the Complaint as to said patent should be reversed with an award of costs to appellants.

Respectfully submitted,

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I certify that, in connection with the preparation of this brief, I have examined Rules 18, 19 and 39 of the United States Court of Appeals for the Ninth Circuit, and that, in my opinion, the foregoing brief is in full compliance with those rules.

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 Attorney

APPENDIX

U. S. CODE, TITLE 35, PATENTS

§ 102. *Conditions for patentability; novelty and loss of right to patent*

A person shall be entitled to a patent unless—

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also

the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

§ 103. *Conditions for patentability; non-obvious subject matter*

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.